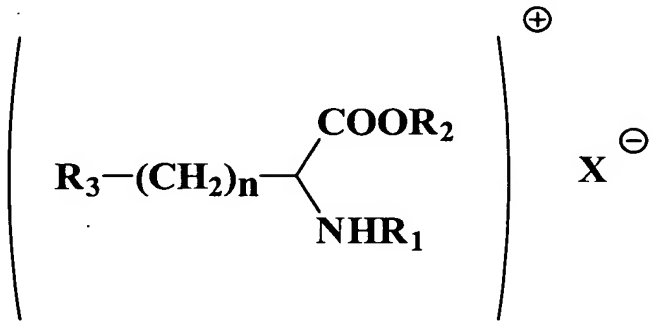
CLAIMS

1. Process for preparing a N^{α}-acyl-L-arginine ester, derived from fatty acids and esterified dibasic amino acids, according to the following formula:



where:

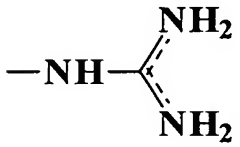
X^- is Br^-, Cl^-, or HSO_4^-;

R_1: is a linear alkyl chain from a saturated fatty acid, or hydroxy-acid, from 8 to 14 atoms of carbon bonded to the α-amino acid group through amidic bond;

R_2: is a linear or branched alkyl chain from 1 to 18 carbon atoms or aromatic; and

R_3: is:

$-NH_3$,



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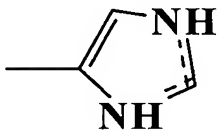
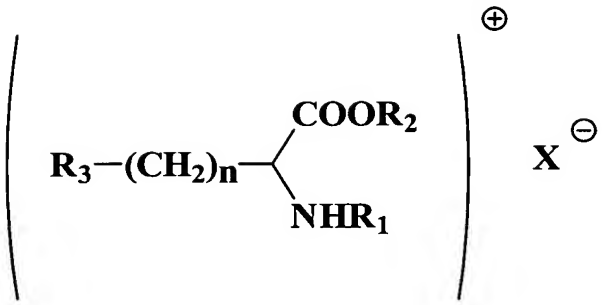


where n can be from 0 to 4, from an appropriate organic acid and alcohol, catalyzed by a hydrolase in a low-water-content organic medium.

2. The process as claimed in claim 1, wherein starting substrates are an alcohol with linear or branched alkyl chain from 1 to 18 carbon atoms or aromatic; and a N^{α}-acyl-L-arginine acid, as cationic salt or acid salt, according to the following formula:



where:

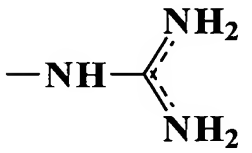
X^- is Br^-, Cl^-, or HSO_4^-;

R_1: is a linear alkyl chain from a saturated fatty acid, or hydroxy-acid, from 8 to 14 atoms of carbon bonded to the α-amino acid group through amidic bond;

R_2: is H an organic or inorganic cation; and

R_3: is:

$-NH_3$,



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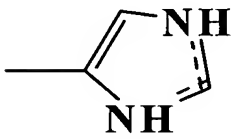


where n can be from 0 to 4.

3. The process as claimed in claim 1 wherein the N^{α}-acyl-L-arginine ester is the ethyl ester of the laurylamide of L-arginine (LAE).

4. The process as claimed in claim 2 wherein the starting N^{α}-acyl-L-arginine acid is the N^{α}-laurylamide of L-arginine.

5. The process as claimed in claim 1 wherein said hydrolase is a protease.

6. The process as claimed in claim 5 wherein said protease is papain from *Carica papaya*.

7. The process as claimed in claim 1 wherein the enzyme is adsorbed onto a solid support selected from the group consisting of polypropylenes, polyamides, diatomaceous earths, clays, zeolites, activated charcoals, carboxymethyl cellulose, cellulose esters and other substituted celluloses, ion exchange resins, insoluble polysaccharides, porous glass beads, aluminum oxide, celite and silica gels.

8. The process as claimed in claim 7 wherein enzyme adsorption onto the solid support is carried out by lyophilization or humectation of a mixture of the solid support and a dispersion of the enzyme in an appropriate buffer solution.

9. The process as claimed in claim 1 wherein the low-water-content organic medium comprises a reaction solvent selected from the group consisting of sterically hindered alcohols, acetonitrile, cyclic ethers, chlorinated hydrocarbons, ketones, esters, ethers, aromatic hydrocarbons, aliphatic hydrocarbons and mixtures of them.

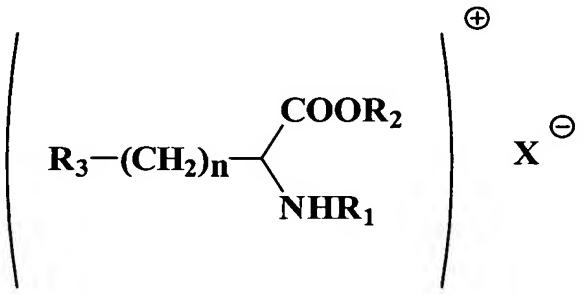
10. The process as claimed in claim 1 wherein the reaction is performed at a water activity between 0.02 and 0.1.

11. The process as claimed in claim 1 wherein the reaction is performed at a temperature between 20°C and 45°C.

12. The process as claimed in claim 1 wherein the reaction is performed at a pH between 3 and 10.

13. The process as claimed in claim 1 wherein water generated in the reaction mixture is drained by a drying agent or a physical method, placed inside or outside of a vessel in which the reaction is performed.

14. Process for preparing a N^{α}-acyl-L-arginine ester, derived from fatty acids and esterified dibasic amino acids, according to the following formula:



where:

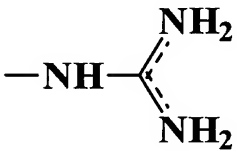
X^- is Br^-, Cl^-, or HSO_4^-;

R_1: is a linear alkyl chain from a saturated fatty acid, or hydroxy-acid, from 8 to 14 atoms of carbon bonded to the α-amino acid group through amidic bond;

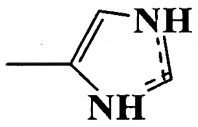
R_2: is a linear or branched alkyl chain from 1 to 18 carbon atoms or aromatic; and

R_3: is:

$-NH_3$,



or



where n can be from 0 to 4, from an appropriate organic acid and alcohol, catalyzed by a protease in a low-water-content organic medium, wherein the protease is adsorbed onto a solid support selected from the group consisting of polypropylenes, polyamides, diatomaceous earths, clays, zeolites, activated charcoals, carboxymethyl cellulose, cellulose esters and other substituted celluloses, ion exchange resins, insoluble polysaccharides, porous glass beads, aluminum oxide, celite and silica gels.

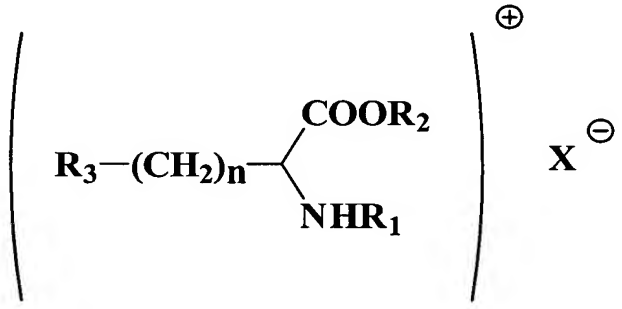
15. The process as claimed in claim 14 wherein enzyme adsorption onto the solid support is carried out by lyophilization or humectation of a mixture of the solid support and a dispersion of the enzyme in an appropriate buffer solution.

16. The process as claimed in claim 14 wherein the low-water-content organic medium comprises a reaction solvent selected from the group consisting of sterically hindered alcohols, acetonitrile, cyclic ethers, chlorinated hydrocarbons, ketones, esters, ethers, aromatic hydrocarbons, aliphatic hydrocarbons and mixtures of them.

17. The process as claimed in claim 14 wherein the N^{α}-acyl-L-arginine ester is the ethyl ester of the laurylamide of L-arginine (LAE).

18. The process as claimed in claim 14 wherein said protease is papain from *Carica papaya.*

19. Process for preparing a N^{α}-acyl-L-arginine ester, derived from fatty acids and esterified dibasic amino acids, according to the following formula:



where:

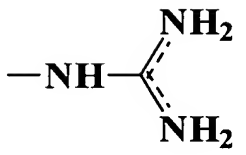
X^- is Br^-, Cl^-, or HSO_4^-;

R_1: is a linear alkyl chain from a saturated fatty acid, or hydroxy-acid, from 8 to 14 atoms of carbon bonded to the α-amino acid group through amidic bond;

R_2: is a linear or branched alkyl chain from 1 to 18 carbon atoms or aromatic; and

R_3: is:

— NH_3,



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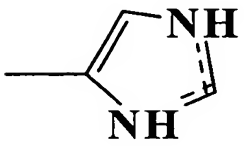

where n can be from 0 to 4, from an appropriate organic acid and alcohol, catalyzed by papain from *Carica papaya* in a low-water-content organic medium,

wherein the papain is adsorbed onto a solid support selected from the group consisting of polypropylenes, polyamides, diatomaceous earths, clays, zeolites, activated charcoals, carboxymethyl cellulose, cellulose esters and other substituted celluloses, ion exchange resins, insoluble polysaccharides, porous glass beads, aluminum oxide, celite and silica gels, and

wherein the N^{α}-acyl-L-arginine ester is the ethyl ester of the laurylamide of L-arginine (LAE).

20. The process as claimed in claim 19 wherein enzyme adsorption onto the solid support is carried out by lyophilization or humectation of a mixture of the solid support and a dispersion of the enzyme in an appropriate buffer solution.